

Mitanaga). Nitta, Sasaki, and Mitnaga, however, fail to render the claimed invention unpatentable. Each of the claims recite a specific combination of features that distinguishes the invention from the prior art in different ways. For example, independent claim 55 recites a combination that includes, among other things:

“forming a crystalline semiconductor film over an insulating surface . . . irradiating the crystalline semiconductor film with a laser beam in a gas selected from at least one of a hydrogen and an inert gas to level a surface of the crystalline semiconductor film.”

Independent claims 76 and 82 recite similar features. Independent claim 86 recites a further combination that includes, for instance,

“floating the substrate over the stage by supplying a gas to a side of the substrate which faces toward the stage . . . irradiating the semiconductor film with a linear laser beam while the substrate is floated . . .”

At the very least, Nitta, Sasaki, and Mitnaga, whether taken alone or in combination, fail to disclose or suggest any of these exemplary features recited in independent claims 55, 76, 82 and 86.

The Examiner has failed to establish a *prima facie* case of obviousness for at least four reasons. First, the Examiner has not demonstrated how Nitta, Sasaki, and Mitnaga, whether taken alone or in combination, disclose or suggest each and every feature recited in the claims. *See* M.P.E.P. § 2143 (8th ed. 2007). Second, the Examiner has not shown the existence of any reasonable probability of success in modifying Nitta, the base reference, based on the teachings of Sasaki and Mitnaga, the secondary references, in a manner that could somehow result in the claimed invention. *See id.* Third, the Examiner has not identified any suggestion or motivation, either in the teachings of the applied references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the apparatus of Omata et al. in a manner that could somehow result in the claimed invention. *See id.* Finally, the Examiner has not explained how his obviousness rationale

could be found in the prior art — rather than being a hindsight reconstruction of Applicants' own disclosure. *See id.*

Each of the Examiner's factual conclusions must be supported by “substantial evidence” in the documentary record, as required by the Federal Circuit. *See In re Lee*, 61 U.S.P.Q.2d 1430, 1435 (Fed. Cir. 2002). The Examiner has the burden of documenting all findings of fact necessary to support a conclusion of anticipation or obviousness “less the ‘haze of so-called expertise’ acquire insulation from accountability.” *Id.* To satisfy this burden, the Examiner must specifically identify where support is found within the prior art to meet the requirements of 35 U.S.C. §§ 102(b) and 103. In this case, however, the Examiner has failed to satisfy his burden of demonstrating how Nitta, taken alone or in combination with Sasaki and Mitnaga, can either anticipate or render obvious each and every one of the limitations present in independent claims 55, 76, 82 and 86, as required by the M.P.E.P. and Federal Circuit jurisprudence.

Turning to the Office Action the Examiner purports that Nitta forms a crystalline semiconductor film over an insulating surface. However, close review of the disclosure of Nitta reveals while an SOI substrate may be utilized (e.g., see col. 9 lines 2-3 of Nitta) Nitta does fails to disclose or fairly suggest forming a crystalline semiconductor film over an insulating surface as claimed. The Examiner also refers to col. 12 line 63 of Nitta to allegedly teach the claimed feature of irradiating the crystalline semiconductor film with a laser beam. However, it is believed that the disclosure of Nitta is misunderstood by the Examiner.

Nitta discloses a gyro and a semiconductor device having a plurality of laser diodes. In accordance with the abstract of Nitta, “the gyro has a ring resonator type laser diode, and which detects a beat signal attendant on rotation, a plurality of laser diodes are disposed on an

identical substrate, thereby to exhibit a wide detection range for angular velocities. A semiconductor device includes a plurality of ring resonator type laser diodes, each of which undergoes a voltage change or a change in a driving current in attendance on a magnitude of an applied angular velocity when subjected to constant-current drive, and which are disposed in a single frame or on a single substrate. In the semiconductor device, the ring resonator type laser diodes may be disposed on an identical surface of the single substrate.”

At best, the device of Nitta employs components including, for example, a semiconductor substrate 1 and first, second and third ring resonator type laser diodes 52, 53 and 54. It appears the Examiner alleges that items 52, 53 and 54 of Nitta are laser beams irradiating a semiconductor film. However, features 52, 53 and 54 (such as shown in FIG. 12) of Nitta are laser diodes (also called semiconductor lasers) that are provided in order to detect the angular velocity of other objects. Furthermore, the disclosed laser diodes of Nitta are specifically utilized in a ring resonator in a gyro(e.g., see col. 12, lines 24-29); thus, the device of Nitta is not in the same field of endeavor as claimed by Applicant. Furthermore, Nitta merely discloses how the laser diodes 52, 53 and 54 are made (e.g., see steps 1 through 5 at col. 8, lines 13-35).

The Examiner readily admits “Nitta does not specifically mention laser irradiation in a gas selected from at least one of a hydrogen and an inert gas.” The Examiner then turns to the disclosure of Sasaki and purports that Sasaki is “from the same field of endeavor.” However, Sasaki also fails to cure the deficiencies of Nitta. At best, Sasaki teaches a method of growing (InAs) 1 and (GaAs)1 on an InP substrate by means of vapor-phase epitaxy (e.g., see abstract of Sasaki) which is considerably different from the claimed subject matter of the instant invention. Mitnaga also lends nothing to further remedy the elements found lacking by the disclosures of Nitta and Sasaki.

With respect to claim 86, the Examiner relies upon Sasaki, particularly FIG. 1, to allegedly render obvious the claimed features. However, upon close review of the disclosure, Sasaki does not disclose or fairly suggest floating the substrate over the stage by supplying a gas to a side of the substrate which faces toward the stage, nor irradiating the semiconductor film while the substrate is floated as recited in the claims. Furthermore, Mitnaga also fails to cure the remaining deficiencies of Nitta and Sasaki.

In accordance with the M.P.E.P. § 2143.03, to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In *re* Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” In *re* Wilson, 424 F.2d 1382, 1385, 165 USPQ 196 (CCPA 1970). Therefore, it is respectfully submitted that neither Nitta, Sasaki, nor Mitnaga, taken alone or in any proper combination, discloses or suggests the subject matter as recited in claims 55, 76, 82 and 86. Hence, withdrawal of the rejection is respectfully requested.

Each of the dependent claims depend from one of independent claims 55, 76, 82 or 86 and are patentable over the cited prior art for at least the same reasons as set forth above with respect to claims 55, 76, 82 and 86.

In addition, each of the dependent claims also recites combinations that are separately patentable.

In view of the foregoing remarks, this claimed invention, as amended, is not rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this response, the Examiner’s reconsideration and reexamination of the application, and the timely allowance of the pending claims.

In discussing the specification, claims, and drawings in this response, it is to be understood that Applicant in no way intends to limit the scope of the claims to any exemplary embodiments described in the specification and/or shown in the drawings. Rather, Applicant is entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

Should the Examiner believe that a telephone conference would expedite issuance of the application, the Examiner is respectfully invited to telephone the undersigned patent agent at (202) 585-8316.

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